

inventions, considered as a whole, makes over the prior art".

It thus is clear that if a claimed combination of technical features is novel and obvious, that it provides unity to those groups of invention that claim it, even if taken individually those technical features are each known in the art.

Applicants note that the Examiner cites Dower and makes the allegation that US 5,770,358 (Dower) deprives the present claims of their patentability. Applicant does not agree. Dower discloses a split-n-six synthesis method and the Dower method does not disclose a hybridization of "building block polynucleotides" (at least some of which are) carrying functional entities (i.e. reactants). Dower does not disclose or suggest "a nucleic acid part formed by hybridization between at least 2 complementary connector polynucleotide and at least 2 connector polynucleotides" as cited in claim 79.

Claim 79 (group III) requires that the bifunctional molecule be obtainable by the method of claim 1. Claim 1 requires in step (iii) the hybridization of complementary connector polynucleotides to connector polynucleotides, and the related "wherein" clause requires that the former comprise a reactant (functional entity). Step (iv) then calls for reaction of those reactants, tending to formation of a "molecule". This "molecule" plainly corresponds to the bifunctional molecule of claim 79.

Turning to group I claim 60, this likewise recites "hybridizing" step (iii) and "reacting" step (iv), so the same argument applies.

The method of claim 78 (Group II) makes reference to claim 60 and contains the further step of selecting at least one molecule. Hence, claim 78, although being in independent form, can be viewed as a claim containing all of the limitations of claim 60 and should thus be rejoined with the claims of Group I.

It is submitted that the method claims of Groups IV and V should be rejoined with Group III as said claims of Groups IV and V relate to uses of the composition of claim 102 and the plurality of bifunctional molecules of claim 79, respectively. In claim 105 the composition of bifunctional molecules are being used for targeting a potential binding partner and bifunctional molecules having an affinity for said binding partner are being selected. In claim 107 the plurality of bifunctional molecules are being used for evolving a plurality of different bifunctional molecules.

The claims of Group VI should be rejoined with Group III as the method of claim 108 effectively results in the formation of the molecule part to which a reference is made in claim 79. Claim 108 cites the generic term "building block oligonucleotide" (cf. definition bridging pages 14 and 15 in the application as originally filed), whereas claim 79 cites "complementary connector polynucleotide" and "connector polynucleotide".

Hence, the restriction of group III from groups I, II, IV, V and VI is respectfully traversed.

3. Applicants believe that for clarity it may be advantageous to amend the claims to recite a "bifunctional complex" rather than a "bifunctional molecule", lest the latter be confused with the "molecule part" that is one of its components.

The term "bifunctional complex" is used interchangeably in the application with "bifunctional molecule". See e.g. page 17, lines 20 and 21, in the application as filed. Also, reference is made to page 103, line 17 in the application as filed, wherein "library molecules" are referred to as "DNA-small molecule complexes". Bifunctional complexes, also referred to as "supramolecular complexes", are also disclosed on page 14, lines 7 to 13, in the application as filed. It is clear that irrespective of whether the term "bifunctional

molecule" or "bifunctional complex" is used, the term denotes an entity comprising both a molecule part and a hybridization complex part, cf. e.g. page 14, lines 22 to 28, and page 51, line 31, to page 52, line 2.

Hence, Applicants would appreciate it if the examiner would state on the record that amendment of claims 79-104, and the new claimed filed herewith, to recite "bifunctional complex" in place of "bifunctional molecule", would not cause them to no longer read on the presently elected "bifunctional molecule" invention.

4. Because the holding of a posteriori lack of unity is improper for the reasons explained in section 2, it follows that the species instruction is improper, see PCT Administrative Instructions, Annex B, paragraph (c)(i) ("no problem arises in the case of a genus/species situation where the genus claim avoids the prior art").

5. Since applicants did not elect group I, the conditional restrictions set forth for group I on pages 2-5.

6. Since applicants did elect group III on page 5 apply, to which applicants respond by making the following elections, all with traverse.

6.1. Applicants elect that the number of complementary connector polynucleotides (per bifunctional molecule) is 3, as disclosed in Fig. 4.

Group III claims 79-84, 97-104 and new claims 118-127 read upon this elected species.

6.2. Applicants elect that the length (number of individual nucleotides) of these complementary connector oligonucleotides is 37, as exemplified by the "scaffold-CCPN" AH381 (sequence at P83, L22) onto which is loaded a hexameric scaffold peptide (P98, L27 - P99, L24).

All group III claims, and also new claims 118-127 read upon this elected species.

6.3. In response to the restriction among species a-g on

page 5, applicant elect species a (claim 80).

All group III claims and also new claims 118-127 read upon this elected species.

It is noted that this restriction is also improper because the species defined by these claims are not mutually exclusive:

Claim	n	Connector Oligos	Complementary Connector Oligos
80	3-6	$\geq n$	$\geq n-1$
82	3-6	$\geq n$	$\geq n$
85	3-6	$\geq n$	$\geq n+1$
88	3-6	$\geq n$	$\geq n+2$
91	3-6	$\geq n$	$\geq n+3$
94	3-6	$\geq n$	$\geq n+4$
97	2-6	$\geq n$, branched	$\geq n$

6.4. As to claim 104 of "Group III", the Examiner states that "claim 104 recites numerous groups, select a single one". Accordingly, Applicant elects "polycyclic compound comprising an aromatic cycle", cf. citation thereof on page 127, lines 23 and 24, in the application as originally filed.

If such election is deemed unresponsive in the absence of an election of a preferred "linker" of the functional entities of the molecule, Applicant elects as a preferred "linker" the "peptide bonds" cited on page 129, line 10, in the application as originally filed.

If election is deemed insufficient in the absence of an election of a preferred "backbone structure", Applicant elects as a preferred "backbone structure" the molecular group "-NHCO-" cited on page 129, line 22, in the application as originally filed.

USSN - 10/539,288

All group III claims as well as new claims 118-127 read
on this elected species.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant

By:


Iver P. Cooper
Reg. No. 28,005

1625 K Street, N.W.
Washington, D.C. 20006
Telephone: (202) 628-5197
Facsimile: (202) 737-3528
IPC:lms
G:\ipc\g-i\hoib\Gouliaev7A\gouliaev7a.pto electintraverse.wpd